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Filed : **July 29, 2003**

REMARKS

The August 15, 2005 Office Action was based on pending Claims 2-42. By this Response, Applicant is amending Claims 2-5, 7, 10, 11, 16, 17, 20, 22 23, 31-35 and 37 and is cancelling Claims 8, 13, 18, 30, 36 and 38 without prejudice or disclaimer. New Claim 43 has been added, and Claims 6, 9, 12, 14, 15, 19, 21, 24-29 and 39-42 remain as originally filed or as previously presented.

Thus, after entry of the foregoing amendments, Claims 2-7, 9-12, 14-17, 19-29, 31-35, 37 and 39-43 are pending and are presented for further consideration. In view of the foregoing amendment and the remarks set forth below, Applicant respectfully submits that Claims 2-7, 9-12, 14-17, 19-29, 31-35, 37 and 39-43 are in condition for allowance.

SUMMARY OF REJECTIONS

The Office Action rejected Claims 8, 13, 18, 30, 36 and 38 under 35 U.S.C. § 112, second paragraph, as being indefinite.

The Office Action rejected Claims 2 and 3 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,426,740 to Bennett ("Bennett"). In addition, the Office Action also rejected Claims 2, 3, 10, 17 and 37 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,455,915 to Coke ("Coke"). Furthermore, the Office Action rejected Claims 2-21 and 37-42 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,978,878 to Lange ("Lange").

The Office Action rejected Claims 23 and 25-29 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,664,112 to Rabe et al. ("Rabe") in view of Bennett. The Office Action also rejected Claims 24 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Bennett and Rabe in further view of Lange.

The Office Action rejected Claims 31-35 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,195,721 to Rice ("Rice") in view of Rabe. In addition, the Office Action rejected Claim 36 under 35 U.S.C. § 103(a) as being unpatentable over Rice and Rabe in further view of Lange. The Office Action also rejected Claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Lange in view of Rabe.

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CLAIM REJECTIONS UNDER 35 U.S.C. § 112

The Office Action rejected Claims 8, 13, 18, 30, 36 and 38 under 35 U.S.C. § 112, second paragraph, as being indefinite for containing the trademark/trade name "Intel Pentium®." While Applicant respectfully disagrees with this rejection, in order to expedite the prosecution of this application, Applicant has cancelled Claims 8, 13, 18, 30, 36 and 38 without prejudice or disclaimer.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102

The August 15, 2005 Office Action rejected Claims 2-21 and 37-42 as being anticipated by at least one of Bennett, Coke and Lange.

Independent Claim 2

The Office Action rejected Claim 2 as being anticipated by each of Bennett, Coke and Lange. For the reasons set forth below, Applicant respectfully disagrees.

Focusing on amended independent Claim 2, in one embodiment of Applicant's invention a method is disclosed for providing data transfers between a processor and a component that operate at different speeds. The method includes, among other things, buffering first and second addresses with first and second address buffers, respectively, and buffering first and second data values with first and second **bi-directional data buffers**, respectively.

The method further includes controlling the first address buffer and the first bi-directional data second buffer **as a matched pair** such that the first address held in the first address buffer corresponds to the first data value held in the first bi-directional data buffer. The method also includes controlling the order of data flow through the first and second bi-directional data buffers such that data flows between a processor and a component, wherein **controlling the order of the data flow is based on a priority status of the first and second data values**.

Bennett

Bennett does not disclose the method recited in amended Claim 2. Rather, as shown and described in Figure 7, Bennett discloses a set of bi-directional address and data buffers 62 for data transfers between an I/O bus 124 and a system bus 18.

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Bennett does not appear to disclose a plurality of address buffers and a plurality of bi-directional data buffers, wherein at least one address buffer and data buffer are controlled as a matched pair. Furthermore, Bennett does not appear to disclose controlling bi-directional data flow through the bi-directional data buffers based on a priority status of the data.

Coke

Coke is directed to a bridge circuit for data transfer between busses operating at different rates. In particular, as shown and described with reference to Figures 2 and 3, Coke discloses a bridge circuit 17a, 17b having three individual unidirectional paths usable for transferring address data depending on from which bus the address data is being sent. For example, when the secondary (slower) bus 18 is reading data from the PCI (faster) bus 12, the address data flows through the line buffer 33a. However, in an opposite direction, when the PCI (faster) bus 12 is reading data from the secondary (slower) bus 18, the address data flows through a different path (32a) without a buffer (see column 5, line 47 through column 6, line 40). Coke also discloses in column 7, lines 5–14, that bi-directional data flow through a buffer would only be achieved if the buffer were used between two busses operating at the same speed.

Coke does not disclose buffering data values with a plurality of bi-directional data buffers and, furthermore, does not disclose controlling an address buffer and a bi-directional data buffer as a matched pair. Moreover, Coke does not disclose controlling data flow through the bi-directional data buffers based on a priority status of the data.

Lange

Lange is directed to a bridge circuit having unidirectional buffers (e.g., FIFO buffers 196 and 200) for the transfer of data between two busses. In particular, with reference to Figure 2, Lange depicts a bridge 24 including a primary-secondary buffer 90 for transferring data in a first direction (i.e., from the primary bus to the secondary bus) and a secondary-primary buffer 98 for transferring data in a second direction (i.e., from the secondary bus to the primary bus). Furthermore, Figure 7 and column 5, line 65 through column 6, line 1, which were cited in the Office Action, disclose that two

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informational transfer circuits (each of which contains a buffer) are needed to achieve bi-directional data flow.

Lange does not disclose buffering data values with a plurality of bi-directional data buffers and, furthermore, does not disclose controlling an address buffer and a bi-directional data buffer as a matched pair. Moreover, Lange does not disclose controlling data flow through the bi-directional data buffers based on a priority status of the data.

Summary

Because none of the cited references discloses each and every element of amended independent Claim 2, Applicant respectfully submits that Claim 2 is not anticipated by any of the cited references. Applicant respectfully requests that the rejections under 35 U.S.C. § 102 be withdrawn.

Independent Claims 10, 17 and 37

Amended independent Claims 10, 17 and 37 are believed to be patentably distinguished over the cited art for reasons similar to those set forth with respect to the patentability of independent Claim 2 and for the different aspects recited therein.

Dependent Claims 3-7, 9, 11, 12, 14-16, 19-21 and 39-42

Claims 3-7 and 9 depend from amended independent Claim 2 and are believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 2 and for the additional features recited therein.

Claims 11, 12, 14-16 depend from amended independent Claim 10 and are believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 10 and for the additional features recited therein.

Claims 19-21 depend from amended independent Claim 17 and are believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 17 and for the additional features recited therein.

Claims 39-42 depend from amended independent Claim 37 and are believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 37 and for the additional features recited therein.

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CLAIM REJECTIONS UNDER 35 U.S.C. § 103

As detailed above, the August 15, 2005 Office Action rejected Claims 22–36 as being obvious over the cited art.

Independent Claim 23

The Office Action rejected Claim 23 as being obvious over Rabe in view of Bennett. For the reasons set forth below, Applicant respectfully disagrees.

Focusing on amended independent Claim 23, a method is disclosed for transferring addresses and data through a bi-directional buffer. The method includes, among other things, storing first and second addresses in first and third buffers, respectively, wherein the first buffer includes status bits. The method further includes storing first data associated with the first address in a second buffer matched with the first buffer and storing second data associated with the second address in a fourth buffer matched with the third buffer. The method also includes controlling the order of data flow of the first data and the second data based on a determination of first and second priority values of the first and second data.

Neither Rabe nor Bennett, alone or in combination, teaches or suggests the method of amended independent Claim 23. Rather, as shown and described with reference to Figure 4, Rabe teaches a circuit 40 including an address register 44 and a pair of buffers 31, 32 for storing data. As indicated in the August 15, 2005 Office Action, Rabe does not teach or suggest the use of bi-directional buffers. Rabe also does not teach or suggest controlling ones of a plurality of address buffers and ones of a plurality of data buffers as matched pairs. Moreover, Rabe does not teach or suggest controlling the order of data flow through the data buffers based on a determination of priority values associated with the data.

As discussed above, with reference to independent Claim 1, Bennett does not appear to teach or suggest a plurality of address buffers and a plurality of bi-directional data buffers that are controlled as matched pairs. Furthermore, Bennett does not teach or suggest controlling the order of data flow through the data buffers based on a determination of priority values associated with the data.

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Because the cited references do not teach or suggest the method of amended independent Claim 23, Applicant respectfully submits that Claim 23 is non-obvious in view of the cited references. Applicant respectfully requests that the rejection of Claim 23 under 35 U.S.C. § 103 be withdrawn.

Dependent Claims 24–29

Claims 24–29 depend from amended independent Claim 23 and are believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 23 and for the additional features recited therein.

Independent Claim 31

The Office Action rejected Claim 31 as being obvious over Rice in view of Rabe. For the reasons set forth below, Applicant respectfully disagrees.

Focusing on amended independent Claim 31, a method is disclosed for transferring data between a processor and a component. The method includes, among other things, receiving a data request and determining whether at least one of a plurality of address buffers and an associated bi-directional data buffer are available. The method further includes storing an address in the at least one address buffer, and ordering the transmission of data identified by the address based on a priority of the data request.

Neither Rice nor Rabe, alone or in combination, teaches or suggests the method of amended independent Claim 31. Rather, as shown and described with reference to Figure 2, Rice teaches an interface circuit 30 having an address buffer 32 and a FIFO data buffer 34 (see, e.g., col. 1, lines 62–67). The data transmission through the data buffer 34, thus, appears to be performed on a first in-first out basis. Rice does not teach or suggest ordering the transmission of data from the bi-directional data buffer to a processor based on a priority assigned to the data request.

Furthermore, as discussed above with respect to independent Claim 23, Rabe does not teach or suggest the use of bi-directional buffers or ordering the transmission of data from a bi-directional data buffer to a processor based on a priority assigned to a data request.

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Because the cited references do not teach or suggest the method of amended independent Claim 31, Applicant respectfully submits that Claim 31 is non-obvious in view of the cited references. Applicant respectfully requests that the rejection of Claim 31 under 35 U.S.C. § 103 be withdrawn.

Dependent Claims 32-35

Claims 32-35 depend from amended independent Claim 31 and are believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 31 and for the additional features recited therein.

Dependent Claim 22

Claim 22 depends from amended independent Claim 17 and is believed to be patentably distinguished over the cited art for the reasons set forth above with respect to amended Claim 17 and for the additional features recited therein.

NEW CLAIM 43

New Claim 43 depends from amended independent Claim 23 and is believed to be patentable for the reasons set forth above with respect to amended Claim 23 and for the additional features recited therein.

REQUEST FOR TELEPHONE INTERVIEW

Pursuant to M.P.E.P. § 713.01, in order to expedite prosecution of this application, Applicant's undersigned attorney of record hereby formally requests a telephone interview with the Examiner as soon as the Examiner has considered the effect of the arguments presented above. Applicant's attorney can be reached at (949) 721-2998 or at the general office number listed below.

CONCLUSION

In view of the foregoing, Claims 2-7, 9-12, 14-17, 19-29, 31-35, 37 and 39-43 are believed to be patentably distinguished over the cited prior art. If further issues remain to be resolved, the Examiner is cordially invited to contact the undersigned such that any remaining issues may be promptly resolved.

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Moreover, by the foregoing amendments and remarks no admission is made that any of the above-cited references are properly combinable. Rather, Applicant submits that even if the references are combined, the references still do not teach or suggest the claimed invention.

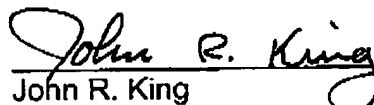
Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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